

No.: Not Yet Assigned

Amendments to the Claims:

Please cancel Claims 1 to 6, without prejudice or disclaimer of subject matter, and add new Claims 7 to 12, as shown below. This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. to 6. (Cancelled)

7. (New) An injection apparatus in a cold chamber die casting molding machine which supplies molten metal of a light metal material into a material supply mouth of an injection sleeve, the injecting sleeve having a plunger injection device for injecting the molten metal using an injecting plunger, the injecting apparatus comprising:

a melting device for melting the light metal material, said melting device further comprising:

a billet supplying device, said billet supplying device replenishing the molding metal using a plurality of cylindrical rod-shaped billets of the light metal material,

a billet inserting device disposed adjacent to said billet supplying device, said billet inserting device moving each billet forward with an inserting plunger and/or retreating the inserting plunger a distance which exceeds an overall length of each billet, and

a first melting cylinder situated adjacent to said billet supplying device obverse to said billet inserting device, said first melting cylinder accommodating the plurality of billets moved forward by the inserting plunger and incrementally melting the plurality of billets to produce several shots of molten metal, said melting device measuring the molten metal by pushing each billet with the inserting plunger and supplying one shot of the molten metal into the injection sleeve after said plunger injection device makes the inserting plunger retreat; and

a molten metal feeding member, said molten metal feeding member for pouring molten metal from said melting device to the plunger injection device, said molten metal feeding member forming a material supplying hole for pouring the molten metal from a distal end of a cylinder bore of said first melting cylinder to the material supply mouth.

No.: Not Yet Assigned

8. (New) The injection apparatus according to Claim 7, wherein the inside diameter of a portion of the cylinder bore distal to said billet inserting device matches the outside diameter of a solid, enlarged, heated billet so as to prevent backward flow of the molten metal, and
wherein the inside diameter of a portion of the cylinder bore adjacent to said billet inserting device is slightly larger than the outside diameter of each billet.
9. (New) The injection apparatus according to Claim 7, further comprising
a cooling member, said cooling member cooling each billet and forming a through hole, the diameter of the through hole being larger than the outside diameter of each billet, said cooling member further comprising a cooling duct around the through hole;
a second melting cylinder, the diameter of at least a portion of a cylinder bore of said second melting cylinder being greater than the diameter of each billet so as to prevent contact between said billet and said cylinder bore; and
a cooling sleeve disposed between said cooling member and said second melting cylinder, the cooling sleeve forming a circular groove, the circular groove cooling the molten metal and generating a circular solidified material on the molten material on the periphery of each billet.
10. (New) The injection apparatus according to Claim 7, wherein the material supplying hole is in fluid communication with the cylinder bore of said first melting cylinder via a connecting passage, the connecting passage opening at an upper portion of the cylinder bore of said first melting cylinder, and
wherein said first melting cylinder is inclined, with a front portion of said first melting cylinder in a high position.
11. (New) The injection apparatus according to Claim 7, further comprising an opening and shutting device disposed between said melting device and said plunger injection device, said opening and shutting device further comprising:
a valve rod for opening and shutting the bottom end of the material supplying hole by going up and down in the material supplying hole, and
a valve rod driving device for opening said valve rod when measuring.

No.: Not Yet Assigned

12. (New) The injection apparatus according to Claim 11, wherein the material supplying hole stores the molten metal during measuring, and wherein the inserting plunger and said valve rod operate substantially simultaneously.